

THE CLAIMS

What is claimed is:

- 5 1. A device for securing a screw comprising:
 a longitudinal shank having a central axis and rear and front ends;
 a spindle, located at the front end of the longitudinal shank and concentric to
the central axis, having front and rear ends, a substantially polygonal-shaped cross-section
10 with a plurality of rounded edges and a plurality of concave side surfaces, a groove
substantially parallel to the central axis, and a borehole flush with the groove concentric to
the central axis; and
 an elastic component having top and bottom ends, with the bottom end
inserted into the borehole and the top end inserted into the groove,
15 wherein the elastic component projects transversely to the central axis across
the cross-section when unstressed, the spindle is received into a screwhead aperture of the
screw, and the screw is secured into position upon stress to the elastic component.
- 20 2. The device of claim 1, wherein the rear end of the longitudinal shank
is configured and dimensioned to be received into a motor-driven screwdriver.
3. The device of claim 1, wherein the rear end of the longitudinal shank
is configured and dimensioned to be received by a screwdriver.
- 25 4. The device of claim 1, wherein the shank has a first diameter and the
spindle has a second diameter less than the first diameter.
- 30 5. The device of claim 1, wherein the spindle has a hexagonal shape.
6. The device of claim 1, wherein the groove and the borehole are flush
with one of the plurality of rounded edges.
- 35 7. The device of claim 1, wherein the groove and the borehole are flush
with one of the plurality of concave side surfaces.
8. The device of claim 1, wherein the elastic component can bend
elastically substantially perpendicular to the central axis.

9. The device of claim 1, wherein the top end of the elastic component is fixed in the groove.

10. The device of claim 9, wherein the top end of the elastic component is bonded, soldered, or clamped into the groove.

11. The device of claim 1, wherein the elastic component is a spring wire.

12. The device of claim 11, wherein the spring wire has a width of 2 mm.

13. A method of securing a screw while implanting into a body comprising:
providing a screw having an aperture in a screwhead;
providing the device of claim 1; and
inserting the spindle into the aperture resulting in stress to the elastic component,
wherein upon application of the stress, the elastic component holds the screw in a steady position.

14. The method of claim 13, wherein the screw is a bone or pedicle screw.

15. The method of claim 13, wherein the groove and the borehole are flush with one of the plurality of rounded edges.

16. The method of claim 13, wherein the groove and the borehole are flush with one of the plurality of concave side surfaces.

17. The method of claim 13, wherein the elastic component can bend elastically substantially perpendicular to the central axis.

18. The method of claim 13, wherein the top end of the elastic component is fixed in the groove.

19. The method of claim 18, wherein the top end of the elastic

component is bonded, soldered, or clamped into the groove.

20. The method of claim 13, wherein the elastic component is a spring wire.

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